

Workshop Outputs

Problems	Strategies	Lead Agency	Funding Agencies	Time Table
CAULERPA				
Production				
Lack of proper management of natural stocks	Management of natural stocks	DA, BFAR, NFRD1 Regional Offices, MSU Tawi-Tawi, MMSU, ZSCMST, UP-MSI	DA, BFAR, BAR	2002-2004
Culture system for <i>Caulerpa racemosa</i>	Rice planting style (fish pond), basket type for seedling bank. Transfer/adaption of existing farming, culture technologies. Water management studies, to improve culture & farming systems.	DA,BFAR,ZSCMST, MMSU, MSU Tawi-Tawi, USC, NSTDC-BFAR,UP-MSI	DA, BFAR, BAR	2002-2004
Lack of raw materials	Establishment of nursery farm for seedling dispersal. Management of natural stocks.	DA,BFAR,MSU Tawi-Tawi, UP-MSI, MMSU.ZSCMST	DA, BFAR, BAR	2002-2004
Post Harvest				
Lack of information on post-harvest techniques	R&D	DA.BFAR/UPV.DOST	AFMA,DA,BFAR	2002-2004
Poor handling facilities	Development of appropriate handling technologies.	UPV, MMSU	AFMA, DA, BFARI	2002-2004
Microbial contamination of <i>Caulerpa</i> (coliform)	Establishment of protocol for the monitoring of environmental safety.	UPV, DOST, DENR-EMB, BFAR	AFMA.DA.BFAF	2002-2004
Processing				
Lack of technologies for processing	Improvement of existing technology for processing quality product. Assessment of salt concentration used.	UPV, BFAR, UP-MSI, MMSU, MSU Tawi-Tawi	AFMA, BAR	2002-2004

Workshop output (continued)

Problems	Strategies	Lead Agency	Funding Agencies	Time Table
Inappropriate packaging materials	Development of suitable packaging material	UPV, BFAR, DOST-ITDI	BAR, PCAMRD	2002-2004
Weak information or dissemination system	Development of information and educational materials	UPV, BFAR	BAR, DOST	2002-2004
Poor quality of finished product	Quality assurance program (HACCP)	UPV, BFAR	DOST	2002-2004
Markets				
Fluctuating price	Improvement of marketing strategies for small producers	UPV	DA-AMAS	2002-2004
Buyers	Market matching	UPV	DA-AMAS	2002-2004
Socioeconomics	Assessment of the role of women in the seaweed industry	UPV-CFOS	DA-AMAS	2003-2005
GRACILARIA				
Production				
Limited farming information	Develop farming techniques for land-based and coastal areas Develop farming techniques for land-based and coastal areas	BFAR, SEAFDEC, UP-MSI, MSU TawiTawi, & SUCs, Academe	BFAR, SEAFDEC, GEM, SIAP	2 ND QTR 2002- 2005
Lack of seedlings	Identify sources of seedlings Improve strains. Establishment of seedling banks, nurseries and gene banks	ZSCMSTBFAR, SEAFDEC, UP-MSI, MSU Tawi Tawi and SUCs	BFAR, SEAFDEC, GEM, SIAP, DA-BAR, DOST, PCAMRD	2 ND QTR 2002-2005
Limited info on seasonality and maturity	<i>Gracilaria</i> stock assessment			2 ND QTR 2002-2005
Disease and other malaise (grazing epiphytism, parasitism)	R&D on disease identification, prevention and control	BFAR, SEAFDEC, UP-MSI, MSU Tawi Tawi and SUCs	BFAR, SEAFDEC, DA-BAR, DOST, PCAMRD	2 ND QTR 2002-2005

Workshop output (continued)

Problems	Strategies	Lead Agency	Funding Agencies	Time Table
Presence of pollutants and contaminants (agricultural, industrial, and domestic wastes)	R&D on identification and evaluation of pollutants and contaminants	BFAR, SEAFDEC, UP-MSI, MSU Tawi-Tawi and SUCs, DENR	BFAR, SEAFDEC, DENR, FDC	2 ND QTR 2002-2005
Post Harvest				
Lack of postharvest facilities (drying platforms and storage)	Establishment of post-harvest facilities in <i>Gracilaria</i> -producing areas	BFAR, SEAFDEC, UP-MSI, MSU Tawi-Tawi and SUCs,	BFAR, SEAFDEC, GEM, SIAP	2 ND QTR 2002-2005
Quality assurance service facilities/equipment determination of moisture, heavy metal content, agar quality, impurities (salt, sand and debris), microbiological contamination	Establishment of quality assurance service facilities in the identified areas	BFAR and DOST Regional Satellite Centers	BFAR, DA, DOST, JICA	2 ND QTR 2002-2005
Processing				
High production cost	Develop techniques and methods to reduce operational costs	SIAP, Processors, DOST-ITDI	SIAP, PROCES-SORS	2 ND QTR 2002-2005
	Establishments of processing plants in strategic areas			
Contamination due to handling, microorganisms, equipment and water and air pollutants	Establishment of quality assurance service facilities	DOST, BFAR	DOST, BFAR, DA-BAR	2 ND QTR, 2002-2007
Non-compliance of environmental requirements	R&D on the effect of processing wastes on the environment	DENR-EMB, LGUs, BFAR	DENR, EMB, BFAR, LGUs	2 ND QTR, 2002-2007
	Environmental monitoring and evaluation of waste material from seaweed processing. Waste management			

Workshop output (continued)

Problems	Strategies	Lead Agency	Funding Agencies	Time Table
Product development and application				
Lack of technical personnel	Conduct training on product development and application	UP-MSI, ITDI, NSTDC-BFAR, UP, CHED	BFAR, DOST	2 ND QTR, 2002-2007
Lack of understanding of the properties of the product	Information dissemination thru production of leaflets, primers, posters, etc.	DOST, DTI, PCAMRD, BEAR	PCAMRD, DOST, BFAR, DTI	2 ND QTR, 2002-2007
Lack of access to state of the art equipment, references and other info	Establishment of regional testing centers Provide internet access and published popularized information as in (B)	BFAR and DOST Regional Satellites	BFAR & DOST	2 ND QTR, 2002-2007
Limited product diversification	R&D	UP-MSI, DOST & FNRI, ITDI	BFAR, DOST, NEDA	2 ND QTR, 2002-2007
Other uses of <i>Gacilaria</i> and <i>Gracilaria</i> waste products	R&D: biofiltration, bioremediation, aquaculture/poultry feeds, organic fertilizer, agriculture, paper products, microchips, fuel, natural products, pigments, non-food additives	UP-MSI, MSU Tawi-Tawi, SUCs, SEAFDEC, BFAR-NSTDC, ITDI	BFAR, DOST, DA-BAR, PCAMRD, SEAFDEC, DTI	2 ND QTR, 2002-2007
Markets				
No national standards for dried raw material and agar	Create national standards for dried <i>Gracilaria</i> and agar	BPS, UP-MSI, BFAR, SIAP, MSU Tawi - Tawi, SEAFDEC, Processors	BPS	2 ND QTR, 2002-2007
Limited market info and promotion	Information dissemination through media & print	TAPI, TLRC, PCAMRD, BAR, DTI	PCAMRD, TLRC, TAPI, BAR	2 ND QTR, 2002-2007
Lack of minimum buying price	See pricing scheme for <i>Euचेuma</i>	DTI	DTI	2 ND QTR, 2002-2007
High transport and handling cost	Establishment of regionalized buying stations	BFAR, DOST, LGUs	DA, BFAR, DOST, LGU	2 ND QTR, 2002-2007

Workshop output (continued)

Problems	Strategies	Lead Agency	Funding Agencies	Time Table
Socioeconomics				
Labor disputes. Lack of cooperation among processors and traders	Organize traders and processors into an association	SIAP	SIAP	2 ND QTR, 2002-2007
Worse peace and order situation in some areas		AFP, PNP, LGU	AFP, PNP, LGU	
Financing				
Stringent financing requirements	Soften the funding requirements	Banks, Quedan Cor, Landbank		2 ND QTR, 2002-2007
KAPPAPHYCUS				
Production				
Lack of seedlings	Establishment of seaweed nurseries (ocean-based) <ul style="list-style-type: none"> • Regions 4, 7 & 8 • Other Regions 	BFAR	BFAR	2000 2001-present
	Establishment of seaweed nursery (land-based and ocean-based)	BFAR, SEAFDEC, SIAP	BAR	
	Development and establishment of gene bank, seedling bank and tissue culture bank	UP-MSI, SEAFDEC, SIAP	USAID	1991-1994(?)
Low quality seedlings	To conduct R&D studies on: <ul style="list-style-type: none"> • Development of cultivars from spores (through sexual and asexual reproduction) • Development of resistant/improved strains through protoplast fusion, mutation, DNA recombination, etc. 	UP-MSI, SEAFDEC, MSU, DOST, SIAP, NGOs	USAID through GEM	1995-1997(?) 1999-(not completed)
Diseases and other malaise in farms	Field monitoring of environmental factors in farms <i>vis-a-vis</i> occurrence of disease	UP-MSI, BFAR, SIAP, NGOs.USCs	BAR	2000-2002

Workshop output (continued)

Problems	Strategies	Lead Agency	Funding Agencies	Time Table
	Train personnel on monitoring of factors and implementation of mitigating strategies			
	Conduct R & D studies related to occurrence of the disease (effect of ecological factors, bacteria, etc.) and its effect on carrageenan quantity and quality			
Low quality seaweed produce	Primer?			
Farming Method/ Farm structures	Undertake R & D on adapting available materials or developing new ones; aquaculture design/ structures engineering; durable materials	SCUs, SEAFDEC GEM, BFAR	BAR, PCAMRD	2002-
Post Harvest				
Lack of post-harvest drying platforms and storage (warehouse)	Provision of post-harvest facilities (stilt dryer/solar dryer)	BFAR, BPRE, NGO	BFAR	2000-
	Identification of beneficiaries			
Lack of quality assurance service facilities/equipment	Information dissemination	DOST		
Processing				
High seaweed prices for low quality produce (high moisture content, low carrageenan content, low CAW)	Setting up of quality assurance facilities/ equipment in strategic areas.	DA-AMAS, BAFPS, BFAR, FDC, SIAP, DTI-BPS, DOH-BFAD, DOST, UP-MSI		First half of year 2002

Workshop output (continued)

Problems	Strategies	Lead Agency	Funding Agencies	Time Table
	Create dried seaweed classification with corresponding price bracket based on seaweed quality (to be included in the proposed Code of Practice)			
	Push for the revision/ updating of the current Product Standards to include specifications for processed products (RC and SRC-pet food and food grade). Revision and review must be publicly heard			
	Popularization of Product Standards, i.e. translation of guidelines into local dialects			
	Formulate specifications for dried seaweed and forge for its strict implementation			
Non-compliance to environmental requirements	Promote ISO 14000/ Environmental Management System to the Industry	DENR, SIAP		
Non-tariff barriers	Link/coordinate with CCFAC, JECFA and Codex Alimentarius on the establishment of acceptable food additive standards	SIAP, DA, UP-MSI, DTI, FDC		
	Lobby for the creation of less stringent or reasonable standards			
	Conduct industry surveys to establish acceptable levels of food additive standards			

Workshop output (continued)

Problems	Strategies	Lead Agency	Funding Agencies	Time Table
Product development and application				
Lack of state of the art equipment and access to references and other information	Source for funds for procurement of state of the art equipment Establish linkages/ networking with concerned institutions for references and new information	DA-BFAR, UPV DOST, UP-MSI, SIAP		
Lack of technical personnel, and understanding of properties of the products	Conduct trainings/ formal and informal education of technical personnel Conduct and implement R&D studies on the properties of the products Undertake seminars to disseminate results of R&D projects	UP-MSI, SEAFDEC, BFAR, SIAP		
Markets				
Lack of minimum buying price	Formulate mechanisms on price setting acceptable to stakeholders	SIAP, Gov't Agencies to assist DA-BFAR, DTI, LGUs		
High transport and handling costs	Policy advocacy to improve port/shipping and handling operations Construct additional infrastructure support facilities	PPA, MARINA, GEM		
Limited market information and promotion, both local and abroad	Promote the Philippines as the seaweed/ carrageenan supplier by: <ul style="list-style-type: none"> • inducing seaweed/ carrageenan exporters to participate in DTI's Tradeline 	BETP, SIAP		

Workshop output (continued)

Problems	Strategies	Lead Agency	Funding Agencies	Time Table
	<ul style="list-style-type: none"> • promoting e-commerce to industry players • conducting seminars on e-commerce for industry players 	SIAP		
	For GEM to provide computers/internet facilities to Western Mindanao Seaweed Council	GEM	GEM	
	Install SIAP website through Yahoo or AOL for faster access	SIAP		
	Publish articles on success stories of carrageenan processors/seaweed farmers on major dailies at least once a month	BETP, SIAP, DTI-PRO		
	Market carrageenan to users of new applications by product launching, business matching and outgoing selling missions	BETP, SIAP		
	Prepare updated and accurate SIAP catalogue of member companies and their products to be disseminated to clients, trade promotion agencies and trade attaches	BETP, SIAP, FTSC		
	Maintain/improve competitiveness <i>vis-a-vis</i> competitor suppliers by improved packaging of export products	BETP, SIAP, PDDCP		
	Set-up a nationwide price info and a monitoring system by radio	SIAP, DA, DTI, GEM		

Workshop output (continued)

Problems	Strategies	Lead Agency	Funding Agencies	Time Table
	Monitor development in export market (e.g., competitor moves re: lead content)	TWC, SIAP, FTSC		
	Conduct Phil. seaweed/ carrageenan industry situation study	GEM		
Socioeconomic				
Resource-use conflict	Zoning of seaweed farming areas	LGU, BFAR, DENR		
Financing				
Stringent financing requirements	To make a request to the banks to ease their lending requirements	SIAP, BFAR		
<i>SARGASSUM</i>				
Production				
Limited population management scheme	More R&D studies on sporelings	Academe - SUCs ZSCMS, UP-MSI, USC, PNAC, SEAFDEC, MSU, MMSU, DA-BAR, BU, SIAP	DA SEAFDEC, DOST-PCAMRD, DA-BFAR, FAO, GEM, SIAP, JICA	2002-2007
Lack of natural recruitment studies and transplantation studies	More R&D studies on natural recruitment and transplantation More R&D on stock enhancement			
Poor harvesting techniques	Information dissemination and demonstrations			
Post Harvest				
Limited R&D studies on storage techniques for alginate production	More studies on storage techniques for alginate production	Academe-SUCs ZSCMST, UPMSI, USC, PNAC, SEAFDEC, MSU, MMSU, DA-BAR, BU, SIAP, DOST-ITDI,	DOST, DA-BAR, SEAFDEC, FAO	2002-2007

Workshop output (continued)

Problems	Strategies	Lead Agency	Funding Agencies	Time Table
Lack of drying/storage facilities	Establishment of drying/storage facilities and equipment for quality assurance of the product	DOST-PCAMRD, DOST Reg. Offices		
Lack of quality assurance service facilities/equipment <ul style="list-style-type: none"> - moisture - heavy metals - impurities - alginic acid/alginate content 				
Processing				
High production cost for alginate	More R&D studies for economically viable processes for alginate	Academe-SUCs SEAFDEC, MMSU, DOST-ITDI, PTRI, SIAP	DOST, DA, SEAFDEC, FAO	2002-2005
Product development and application				
Lack of technical personnel	More R&D activities on product development, e.g. aquaculture feed and other uses	Academe-SUCs UP MSI, MMSU, DOST-ITDI, PTRI, SIAP	DOST, DA, FAO, JICA	continuing
Lack of product diversification				
Lack of SOA equipment/access to references and other information				
Lack of technical know-how on the properties of the product				
Markets				
Lack of minimum buying price	Create a mechanism to address the issue of minimum buying price (e.g. Code of Practice for the Seaweed Industry)	All stakeholders	SIAP, GEM, DTI, DA-BFAR, and other concerned agencies	continuing

Workshop output (continued)

Problems	Strategies	Lead Agency	Funding Agencies	Time Table
Limited market information, local	Improve market promotion/information thru lectures/ seminars for farmers and processors w/ emphasis on ecological importance of <i>Sargassum</i>	Univ. of Asia and the Pacific, PDIS-NEDA, DTI(BOI, CITEM), SIAP, UPISSI		
Limited market promotion, local				